



09/473,315

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Larry Eugene Mosley

Examiner: Eric W. Thomas

Serial No.: 09/473,315

Group Art Unit: 2831

Filed: December 28, 1999

Docket: 884.209US1

Title: HIGH PERFORMANCE CAPACITOR

AMENDMENT AND RESPONSE UNDER 37 C.F.R. § 1.111

Commissioner for Patents  
Washington, D.C. 20231

Applicant has reviewed the Office Action mailed on March 7, 2001. Please amend the above-identified patent application as follows.

IN THE DRAWINGS

Enclosed is a copy of Figure 5 showing the proposed amendment in red ink. Reference number 500, which points to a via, is changed to reference number 510 to eliminate the use of reference number 500 with respect to more than one element. A corresponding amendment to the specification is requested below.

IN THE SPECIFICATION

Please substitute the paragraph in the appendix entitled "Clean Version of Page 7, First Paragraph" for the first paragraph of page 7. Specific amendments to the first paragraph of page 7 are detailed in the following marked-up paragraph:

Figure 5 is an illustration of a cross-sectional view of some embodiments of a system 500 including capacitor 503 coupled to substrate 506 and electrically coupled by vias [512] 510 and controlled collapse chip connection 512 to die 515. Capacitor 503 is coupled to power supply connections on die 515 to decouple the power supply connections at the die. Capacitor 503 is protected from the environment by molding 518. In one embodiment, substrate 506 is formed from a low K dielectric and has a thickness 521 of between about .05 millimeters and about .1 millimeters. A dielectric thickness of between about .05 millimeter and .1 millimeter allows system 500 to be fabricated with shorter capacitor leads than the capacitor leads in system 400. As described above, a system having short leads between capacitor 503 and die 515 results in a capacitor having a low inductance and a low resistance, which improves the performance of the decoupling circuit.

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